

1 access lines in that central office. The weighted average cost of a DS1 loop is
2 then divided by the weighted average cost of a DS0 loop.

3
4 **Q. WHAT IS THE ECONOMIC CROSSOVER RESULT PRODUCED IN**
5 **THE MODEL?**

6
7 A. The model results indicate that, for up to 10 DS0s at a customer's location,
8 purchasing individual loops is more cost effective, or economic, than purchasing a
9 single DS1. Above 10 DS0s, the DS1 becomes the more cost effective means of
10 providing service to the customer.

11
12 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

13
14 A. Yes.

**TRO Economic Business Case
 DS0 to DS1 Cross Over**

State = SC
 Company = BellSouth

AT&T Communications of the Southern States, LLC
 Docket No. 2003-326-C
 Exhibit MEA-1, Page 1 of 2
 March 12, 2004

A	B	C	D	E	F
Row	Description	DS1 + Channel Bank	DS0	Cross-Over DS0 Quantity	Cross-Over Rounded DS0 Quantity
10	Weighted Average				
11	MRC	\$140.04	\$17.03		
12	NRC - Ammortized	\$39.02	\$0.96		
13	Total	\$179.06	\$18.00	9.95	10
14					

1 **Inputs**

AT&T Communications of the Southern States, LLC
 Docket No. 2003-326-C
 Exhibit MEA-1, Page 2 of 2
 March 12, 2004

3	Assumed Term	
4	Months - MRC	1
5	Channel Bank (CB)	
6	MRC per DS1	\$37.31
7	Assumed Term	
8	Months - NRC	24
9	Cost of Capital	
10		13.07%
11	Add'l NRC DS0 Quantity	
12	Number of DS0s	9

UNE DS0 Loop MRC Rates					
State	Zone	BS	ILEC	ILEC	
South Carolina	1	\$14.94	\$0.00	\$0.00	
	2	\$21.39	\$0.00	\$0.00	
	3	\$26.72	\$0.00	\$0.00	
	4	\$0.00	\$0.00	\$0.00	
Weighted Average		\$17.03			

UNE DS1 Loop MRC Rates					
State	Zone	BS	ILEC	ILEC	
South Carolina	1	\$79.51	\$0.00	\$0.00	
	2	\$136.00	\$0.00	\$0.00	
	3	\$229.15	\$0.00	\$0.00	
	4	\$0.00	\$0.00	\$0.00	
Weighted Average		\$140.04			

UNE DS0 Loop NRC Rates					
State	Description	BS	ILEC	ILEC	
South Carolina	NRC-First	\$37.92	\$0.00	\$0.00	
	NRC-Additional	\$17.62	\$0.00	\$0.00	
	S.O.-First	\$5.92	\$0.00	\$0.00	
Weighted Average		\$20.24			

UNE DS1 Loop NRC Rates					
State	Description	BS	ILEC	ILEC	
South Carolina	NRC-First	\$253.03	\$0.00	\$0.00	
	NRC-Channel Bank*	\$561.13	\$0.00	\$0.00	
	S.O.-First	\$5.92	\$0.00	\$0.00	
Weighted Average		\$820.08			

* CLEC cost to install the channel bank at customer premises.

BEFORE THE TENNESSEE REGULATORY AUTHORITY

In Re:

**IMPLEMENTATION OF THE FEDERAL
COMMUNICATIONS COMMISSION'S
TRIENNIAL REVIEW ORDER - 9
MONTH PROCEEDING - SWITCHING**

)
)
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)
)
)
)

Docket No. 03-00491

Filed: February 27, 2004

REBUTTAL TESTIMONY OF MARK E. ARGENBRIGHT

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Mark E. Argenbright. My business address is 1200 Peachtree St. NE,
3 Suite 8200, Atlanta, GA 30309.

4
5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by AT&T Corp. and hold the position of District Manager, Law
7 and State Government Affairs, providing support for AT&T's regulatory
8 advocacy in the nine states that make up AT&T's Southern Region.

9
10 **Q. PLEASE SUMMARIZE YOUR TELECOMMUNICATIONS**
11 **BACKGROUND AND EDUCATION.**

12 A. I graduated from the University of Montana in 1980 and have a Bachelor of
13 Science Degree in Business Administration. I have worked in the
14 telecommunications industry for over 17 years with 15 of those years in the area
15 of regulatory affairs. Prior to being employed by AT&T, I was employed by
16 WorldCom, Inc from 1994 to 2002 with multiple responsibilities including
17 development and coordination of various of the company's regulatory and public
18 policy initiatives for the company's domestic operations. This included acting as a
19 witness in support of such initiatives. Prior to that, I was employed by the
20 Anchorage Telephone Utility (now known as Alaska Communications Systems)
21 as a Senior Regulatory Analyst and American Network, Inc. as a Tariff Specialist.

22 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS**
23 **PROCEEDING?**

24
25 A. No.

26 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

1 A. To respond to the proposal by BellSouth witness Ms. Blake regarding the
2 appropriate crossover point for use in delineating between mass market customers
3 and enterprise customers in Tennessee and to provide an alternative proposal
4 based on the general formula described by CompSouth witness Mr. Gillan.

5 **Q HOW IS YOUR TESTIMONY STRUCTURED?**

6 A. I will first address the BellSouth proposal and how it fails to consider the
7 direction given by the FCC with regard to the calculation of a crossover point. I
8 will then review the formula described by CompSouth's Mr. Gillan in his direct
9 testimony. Consistent with this formula, I will then propose a more suitable
10 crossover point. Finally, I will describe the calculation, which utilizes a model
11 introduced by Sprint in the state of Florida for the purpose of calculating the
12 crossover point, utilizing Tennessee specific inputs.

13
14 **Q. AT PAGE 8, LINES 12 THROUGH 17, BELL SOUTH WITNESS BLAKE**
15 **INDICATES THAT THE APPROPRIATE CROSSOVER POINT WITH**
16 **WHICH TO DELINEATE BETWEEN "MASS MARKET" AND**
17 **"ENTERPRISE" CUSTOMERS IS "THREE OR FEWER DSO LINES."**
18 **DO YOU AGREE?**

19
20 A. No. As explained in the direct testimony of CompSouth's Mr. Gillan, the
21 calculation of a crossover results in establishment of the upper boundary of the
22 mass market "in terms of the number of voice lines a customer may have before
23 the customer should be viewed as an 'enterprise customer.'" Ms. Blake's
24 suggestion that a crossover point of three lines is appropriate fails to consider the

1 FCC's primary direction that a crossover calculation consider the point at which it
2 is more economical for a customer to be served with a DS1 instead of multiple
3 DS0 loops.

4
5 In fact Ms. Blake misquotes the FCC's Order in this regard. Citing to ¶497 of the
6 TRO, Ms. Blake indicates that the FCC's direction is "to define the cross-over
7 point as 'where it makes sense for the multi-line customer to be served via a DS1
8 loop.'" The FCC's actual direction is clear when ¶497 is cited accurately:

9
10 "This cross over point may be the point where it makes *economic* sense
11 for a multi-line customer to be served via a DS1 loop." [emphasis added]
12

13 Failure to consider the point at which it makes more "economic sense" to serve a
14 customer with a DS1 rather than multiple DS0s does not comply with the
15 direction given by the FCC.

16
17 **Q. IN MR. GILLAN'S DIRECT TESTIMONY, BEGINNING AT PAGE 25,**
18 **LINE 18 THROUGH PAGE 26, LINE 20, HE DESCRIBES A GENERAL**
19 **FORMULA WITH WHICH AN ECONOMIC CROSSOVER POINT**
20 **COULD BE CALCULATED. PLEASE SUMMARIZE THIS FORMULA.**

21
22 **A.** CompSouth's witness Mr. Gillan proposes, and, as a member of CompSouth,
23 AT&T supports, a "straightforward calculation" whereby the cost of a UNE DS1
24 is compared to the cost of multiple UNE analog loops in order to make a
25 determination as to when, in terms of the number of UNE analog loops, it is more
26 economical to serve a customer with a DS1. The cost of a UNE DS1 must also

1 include the customer premise equipment that is required to utilize DS1 service as
2 well as all the costs of non-recurring activities and installation of such equipment.

3
4 CompSouth's Mr. Gillan illustrates the calculation as follows:

5
6
$$\text{Crossover} = \frac{(\text{CPE} + \text{UNE DS-1})}{\text{UNE Loop}}$$

7

8
9 The costs, recurring and non-recurring, associated with acquiring the UNE DS-1
10 and UNE Loop facilities from the incumbent must be included in the calculation.

11
12 The use of such a formula will result in the determination of the number of analog
13 lines at which it is more economical to serve a customer with a DS1, which is the
14 crossover point. AT&T, as a member of CompSouth, supports CompSouth's
15 proposed approach.

16
17 **Q. DOES COMPSOUTH'S WITNESS DISCUSS OTHER FACTORS THAT**
18 **COULD BE APPROPRIATE TO CONSIDER IN THIS ANALYSIS?**

19
20 **A.** Yes. At page 26, lines 14 through 20, CompSouth's Mr. Gillan explains that the
21 above formula could be made more complicated by including other costs that
22 would be incurred with the use of UNE-L. "... (such as collocation and backhaul)
23 that are not incurred to use UNE-P." AT&T agrees with CompSouth's Mr. Gillan
24 that there are additional costs that could be added to the analysis however, as a
25 member of CompSouth, AT&T supports the straightforward approach and
26 formula proposed by CompSouth's Mr. Gillan.

1 Q. IN TENNESSEE, WHAT IS THE APPROPRIATE CROSSOVER FOR
2 MULTI-LINE ANALOG LOOP CUSTOMERS WHERE IT BECOMES
3 MORE ECONOMIC TO SERVE A MULTI-LINE CUSTOMER WITH A
4 DS1?

5
6 A. Exhibit MEA-1, attached to my testimony, calculates the average economic
7 crossover a competitive local provider would experience in serving an analog
8 customer in the BellSouth territory within the state of Tennessee based on the
9 number of analog voice lines used by the customer.

10

11 The results of this calculation indicate that, up to 10 DS0s at a customer's
12 location, purchasing individual loops is more cost effective or economic than
13 purchasing a single DS1.

14

15 Q. WHAT IS THE SOURCE OF THIS CALCULATION?

16

17 A. Sprint Communications, in Florida, filed a model that calculated an economic
18 crossover specific to the State of Florida.¹ This same model has been populated
19 with some Tennessee specific inputs and now calculates a specific and reasonable
20 economic crossover point for Tennessee, which is consistent with the economic
21 crossover calculation proposed above.

22

23 Q. WHY DO YOU FIND SPRINT'S MODEL A REASONABLE METHOD
24 FOR THE DETERMINATION OF THE ECONOMIC CROSSOVER
25 POINT BETWEEN MASS MARKET AND ENTERPRISE CUSTOMERS?

¹ Direct Testimony of Kent W. Dickerson, Docket No. 030851-TP, filed December 4, 2003.

1 A. The non-recurring unbundled network element charges for establishing DS0 or
2 DS1 services are amortized over a 24 month period using the weighted cost of
3 capital. In this model the assumption is a 24 month average customer life.

4
5 **Q. HOW IS THE MONTHLY COST OF THE CHANNEL BANK AT A DS1**
6 **CUSTOMER PREMISES CALCULATED?**

7
8 A. The monthly cost of the equipment is calculated by dividing the total material cost
9 over the life of the asset, accounting for the cost of capital, nine year depreciation
10 life, income tax, maintenance, and sales tax of 7 percent.

11
12 Material prices reflect the size of the channel bank and cards that would be
13 installed at a customer premises capable of multiplexing one DS1 into DS0s. The
14 material was then amortized. Labor related to the installation of the customer
15 premises channel bank was amortized over 24 months.

16
17 **Q. HOW ARE THESE COST COMPONENTS USED TO CALCULATE AN**
18 **AVERAGE CROSSOVER BETWEEN UNBUNDLED DS0 AND DS1**
19 **LOOPS WITHIN BELL SOUTH'S TERRITORY?**

20
21 A. The Sprint model calculates the UNE provisioning costs of both DS0 and DS1
22 facilities as described above for each central office in the state of Tennessee
23 served by BellSouth. A weighted average cost for each MRC and NRC is
24 computed by multiplying the central office specific result by the percentage of

TRO Economic Business Case					
DS0 to DS1 Cross Over					
			State =	TN	
			Company =	BellSouth	
A	B	C	D	E	F
		DS1 +		Cross-Over	Cross-Over
Row	Description	Channel Bank	DS0	DS0 Quantity	Rounded DS0 Quantity
10	Weighted Average				
11	MRC	\$104.33	\$15.15		
12	NRC - Ammortized	\$41.59	\$1.01		
13	Total	\$145.92	\$16.16	9.03	10
14					

1 Inputs

3	Assumed Term	
4	Months - MRC	1
5	Channel Bank (CB)	
6	MRC per DS1	\$38.02
7	Assumed Term	
8	Months - NRC	24
9	Cost of Capital	
10		13.07%
11	Add'l NRC DS0 Quantity	
12	Number of DS0s	9

15	UNE DS0 Loop MRC Rates				
16	State	Zone	BS	ILEC	ILEC
17	Tennessee	1	\$11.74	\$0.00	\$0.00
18		2	\$17.59	\$0.00	\$0.00
19		3	\$29.37	\$0.00	\$0.00
20		4	\$0.00	\$0.00	\$0.00
21	Weighted Average	\$15.15			

24	UNE DS1 Loop MRC Rates				
25	State	Zone	BS	ILEC	ILEC
26	Tennessee	1	\$51.38	\$0.00	\$0.00
27		2	\$76.98	\$0.00	\$0.00
28		3	\$128.54	\$0.00	\$0.00
29		4	\$0.00	\$0.00	\$0.00
30	Weighted Average	\$104.33			

33	UNE DS0 Loop NRC Rates				
34	State	Description	BS	ILEC	ILEC
35	Tennessee	NRC-First	\$31.99	\$0.00	\$0.00
36		NRC-Additional	\$20.02	\$0.00	\$0.00
37		S.O.-First	\$0.00	\$0.00	\$0.00
38	Weighted Average	\$21.22			

41	UNE DS1 Loop NRC Rates				
42	State	Description	BS	ILEC	ILEC
43	Tennessee	NRC-First	\$313.08	\$0.00	\$0.00
44		NRC-Channel Bank*	\$561.13	\$0.00	\$0.00
45		S.O.-First	\$0.00	\$0.00	\$0.00
46	Weighted Average	\$874.21			

* CLEC cost to install the channel bank at customer premises.

**BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND**

**DIRECT TESTIMONY OF
ROBERT J. KIRCHBERGER
AND
E. CHRISTOPHER NURSE**

**ON BEHALF OF
AT&T COMMUNICATIONS
OF MARYLAND, LLC**

CASE NO. 8983

PUBLIC VERSION

January 26, 2004

m023

1 defined, the standards set forth in the TRO for determining whether CLECs are
2 impaired, and how the Commission should apply those standards to the evidence
3 discussed herein.

4 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

5 A. The following sections will address:

- 6 • The manner in which the TRO's "trigger" test is to be applied, and the
7 results of applying it to Maryland data;
- 8 • The benefits that Maryland consumers (and Verizon) have derived from
9 UNE-P competition;
- 10 • The manner in which this Commission should address the TRO's
11 requirement that the states establish a "crossover" point at which it may
12 be economic for a CLEC to serve a business customer with a DS1 loop
13 rather than multiple DS0 loops (the so-called "DS0/DS1 crossover");
- 14 • The network architecture requirements -- and additional cost
15 disadvantages -- facing a CLEC desiring to serve customers with its own
16 switch;
- 17 • Whether CLECs are impaired on certain routes without access to
18 dedicated transport; and
- 19 • The transition mechanisms the Commission should employ if it finds --
20 which it should not -- that CLECs are not impaired on certain routes
21 without access to dedicated transport.

22 **Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.**

23 A. Our detailed findings and recommendations are set forth in the sections which
24 follow, and we refer the Commission to those sections for our substantive
25 recommendations. As a general matter, however, the evidence we present
26 demonstrates that --

- 1 • The TRO's self-provisioning trigger for mass market switching – that
- 2 three CLECs serve both business and residential mass market
- 3 customers using their own switching -- is not met in any wire center in
- 4 either of the two Metropolitan Statistical Areas ("MSAs") at issue.
- 5 • UNE-P competition is widespread throughout Maryland, particularly
- 6 in the two MSAs at issue, and is providing substantial benefits to
- 7 consumers (and to Verizon);
- 8 • There is no need for the Commission to identify a "crossover" point
- 9 between DS0 and DS1 loops. Rather, the Commission should
- 10 affirmatively find that consumers, rather than regulators, will decide
- 11 how their service arrangements should be configured.
- 12 • CLECs face substantial economic and operational barriers in
- 13 attempting to serve mass market customers using their own switching
- 14 facilities; and
- 15 • Verizon's dedicated triggers case is one of assumption and speculation
- 16 rather than fact. Verizon has failed to demonstrate that the "triggers"
- 17 have been met with respect to dedicated transport; and

18
19

20 *Interpreting the FCC Triggers For Mass Market Switching*

21

22 **Q. DOES THE TRO MAKE A NATIONAL FINDING THAT UNBUNDLED**
23 **MASS MARKET SWITCHING MUST REMAIN AVAILABLE IF CLECS**
24 **ARE "IMPAIRED" WITHOUT IT?**

25 **A.** Yes. The FCC made a national finding that CLECs are impaired in serving mass
26 market customers without access to unbundled local switching.¹ Its TRO
27 recognizes that "incumbent LECs [must] make an element available so long as

¹ TRO ¶ 502.

1 requesting carriers would be impaired without it.”² Thus, any impairment
2 analysis for mass market switching must begin then with the FCC’s finding of
3 nationwide impairment.

4 **Q. WHAT ROLE IS ASSIGNED TO THE STATES?**

5 A. The FCC delegated to the states the role of determining whether an exception to
6 the national impairment finding should be made for any particular area. The FCC
7 identified two processes the states are to use for making this investigation, one a
8 more streamlined determination of whether certain “triggers” have been met, and
9 the other a more nuanced analysis of the economic and operational barriers
10 CLECs face in attempting to serve mass market customers without access to
11 unbundled local switching.³

12 **Q. ARE BOTH THE STREAMLINED “TRIGGER ANALYSIS” AND THE**
13 **MORE ROBUST “POTENTIAL DEPLOYMENT” TESTS INTENDED TO**
14 **ANSWER THE SAME QUESTION?**

15 A. Yes. Both analytical processes are intended to – and indeed must – reach the
16 same answer to the same question, *i.e.*, whether the defined geographic area
17 supports multiple, viable entrants that can serve mass market customers using
18 non-ILEC switching. Thus, both analytical processes are also part of the broader
19 analysis to determine “whether lack of access to an incumbent LEC network
20 element poses a barrier or barriers to entry, including operational and economic
21 barriers that are likely to make entry into a market uneconomic.”⁴

² TRO ¶ 117.

³ *Id.* ¶¶ 462, 463.

⁴ *Id.* ¶ 56.

1 savings being enjoyed by consumers across the country will disappear.”⁸³ These
2 benefits can be expected to grow substantially in the future – but only if UNE-P is
3 permitted to continue. Restricting the availability of unbundled mass market
4 switching now would eliminate those benefits and further entrench – and expand
5 – Verizon’s monopoly.

6
7
8 The Commission can adopt Verizon’s proposal that customers, rather than regulators,
9 decide whether they want to be served with multiple unbundled loops at a single
10 location; there is no need to mandate a DS0/DS1 “crossover” point.
11

12 Q. WHAT IS VERIZON’S PROPOSAL REGARDING THE DS0/DS1
13 CROSSOVER POINT?

14 A Verizon witnesses Gilbert and Peduto argue at pages 13 to 15 of their direct
15 testimony that the Commission need not establish any particular cutoff point at
16 all. Rather, they contend (at 14), “[i]t is the objective behavior of CLECs that
17 drive[s] the determination of whether or not it ‘makes economic sense’ for CLECs
18 to serve particular customers over DS1 loops, rather than over multiple voice
19 grade DS0 lines.” Continuing, these witnesses state (at 14-15): “If a CLEC is
20 currently serving a customer using DS0 loops – regardless of how many – it has
21 already made the determination on its own that it is most economical to serve that
22 customer as a mass-market customer, rather than as a DS1 enterprise customer.
23 In other words, if it made “economic sense” to serve the customer over a DS1
24 loop, then the CLEC would, in fact, be doing so. This objective test is more
25 reliable, and grounded in the realities of the marketplace, than an arbitrary

⁸³ Consumer Federation of America Press Release, “Study Shows Incumbents’ Arguments for Higher Wholesale Prices, Reduced Access to UNEs Don’t Stand Up to Scrutiny,” Oct. 7, 2003. A copy of this release can be accessed online at <http://www.consumerfed.org/pr10.07.03.html>.

1 "cutoff" at a particular number of lines, regardless of whether the customer is
2 actually being served as a DS1 customer."

3 Put simply, Verizon's position appears to be that it is the CLECs (and by
4 necessary inference their customers) who determine whether a customer is "mass
5 market" or "enterprise," depending upon whether the customer is to be served
6 over DS0 or higher capacity loops.⁸⁴ There is no need, according to Verizon, for
7 the Commission to establish a fixed DS0/DS1 crossover point. Instead, Verizon's
8 proposal is that each CLEC (and its customers) that determine their own crossover
9 points based on their own business needs. We term this the "Self-Decided"
10 market definition as between the mass market and enterprise markets.

11 **Q. IF THE COMMISSION ADOPTS VERIZON'S PROPOSAL TO**
12 **"DETERMINE THE APPROPRIATE CUT-OFF FOR MULTILINE DS0**
13 **CUSTOMERS" (TRO ¶ 497) AS BEING "SELF-DECIDED," SHOULD**
14 **THAT SAME DEFINITION APPLY FOR ALL OTHER MARKET**
15 **DETERMINATIONS REQUIRED UNDER THE TRO?**

16 **A.** Yes. The TRO (at ¶ 495) provides that "[T]he state commission must use the
17 same market definitions for all of its analysis."

18 **Q. WHAT IMPACT WOULD VERIZON'S MARKET DEFINITION HAVE,**
19 **FOR EXAMPLE, ON A CLEC'S ABILITY TO OBTAIN MULTIPLE UNE-**
20 **P ARRANGEMENTS AT A SINGLE LOCATION?**

21 **A.** Under Verizon's "Self-Decided" approach to the mass market definition, a CLEC
22 would be able to provision as many UNE-P arrangements at a single location as
23 the CLEC found to be economically and/or operationally feasible. It would be
24 entirely the CLEC's (and its customer's) decision.

⁸⁴ Although Verizon focuses on the CLEC's supposed "choice," in fact customers principally make these decisions. It is they who must decide whether they want to allow new CPE to be deployed at their premises and whether they are willing to go through the cutover of their service from DS0 loops to higher capacity facilities.

1 This would override the FCC's tentative suggestion in its *UNE Remand*
2 *Order* that, under certain conditions, an ILEC might be relieved of its obligation
3 to make UNE-P lines available at locations served by four or more lines in density
4 zone one in the top 50 Metropolitan Statistical Areas (MSAs).⁸⁵ As the TRO
5 explains, where the states utilize their authority "to determine the appropriate
6 cross over point" the *UNE Remand Order's* suggested four-line limitation would
7 not apply. (TRO ¶ 497 and Footnote 1546)

8 This would not be a change for Verizon. Although the *UNE Remand*
9 *Order* afforded it the opportunity to do so, Verizon to date has not enforced any
10 limits on the number of UNE-P arrangements a CLEC could obtain at an
11 individual location. Under the "Self-Decided" market definition that Verizon
12 proposes here, that would continue to be the case. However, Verizon should not
13 be allowed to manipulate its proposal to support a claim that if a CLEC serves
14 only a market niche of multi-line business customers it may be found to be a
15 viable trigger firm under the trigger analysis.

16 **Q. IS VERIZON'S PROPOSAL FOR A "SELF-DECIDED" CROSSOVER**
17 **POINT WARRANTED BY THE FACTS?**

18 **A.** Yes. Even a simplified analysis shows that the appropriate cross-over point
19 between DS0 and DS1 loops is sufficiently high such that there is no practical
20 need for the Commission to draw a line at some arbitrarily low number.

⁸⁵ In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking ("UNE Remand Order"), Decision FCC 99-238, released November 5, 1999, ¶ 278 and 281.

1 Q. IF NONETHELESS THE COMMISSION DECIDES TO ESTABLISH A
2 CROSSOVER POINT, HAVE YOU ESTIMATED WHAT THE
3 CROSSOVER POINT SHOULD BE?

4 A. A conservative and simplified comparison was made of the cost of providing
5 multiple DS0 UNE-loops with the costs of serving that customer with a DS-1
6 UNE-loop. This type of comparison was contemplated by the FCC in Footnote
7 1544 of the TRO but did not take into account all costs that a CLEC will incur in
8 provisioning a multi-line customer by means of a DS1 facility. For Maryland,
9 this conservative and simplified comparison shows that the crossover would be a
10 Statewide weighted average of not less than 10 lines. The cost study
11 methodology and inputs used in the calculation for this comparison appear in
12 Exhibit 11 to this testimony.

13 Q. WHY DID YOU STATE THAT YOUR COMPARISON WAS
14 CONSERVATIVE AND SIMPLIFIED?

15 A. The analysis only compared the costs a CLEC would incur in serving a multiple-
16 line customer using DS0 loops versus using a DS1 loop and providing associated
17 customer premises equipment. The study did not include the additional costs of
18 marketing and engineering. Looking at those and other economic factors would
19 indicate an even higher crossover point.⁸⁶ It should also be noted that the nominal
20 Statewide average of 10 lines, when increased to account for the other factors, is
21 generally consistent with the 19-line limit that has been in place in New York for
22 the last several years. If the Commission concludes that a crossover level should
23 be established, despite the contentions of both Verizon and AT&T that there

⁸⁶ A CLEC must incur substantial costs to backhaul customer lines to the CLEC's switch that an ILEC does not face. Unlike a CLEC seeking to use the UNE-L architecture, the ILEC connects its loops and switching using a simple, inexpensive copper wire pair cross-connection in the central office where its loops terminate. Thus, the ILEC's backhaul "network" consists of only a short pair of jumper wires.

1 should be no limit, the level should be set sufficiently high so that, as practical
2 matter, CLECs can continue to choose, based upon the totality of circumstances
3 related to serving each multiple-line customer, whether it is economic to provide
4 service using DS0 loops or a DS1 loop.

5 **Q. PLEASE DESCRIBE YOUR COST-COMPARISON ANALYSIS.**

6 A. A CLEC will incur substantial non-recurring and recurring and investment costs
7 in deciding to serve a customer by means of DS1-service. This is partly due to
8 the fact that it generally costs a CLEC roughly the same to serve a customer with
9 a DS1-based facility whether the customer has one voice-grade-equivalent line or
10 twenty-four.⁸⁷ By contrast, a CLEC's costs to order and provision DS0 UNE-
11 Loop service include no CPE investment. Further, a CLEC's monthly recurring
12 costs are directly related to the number of loops served at a location.⁸⁸ For
13 example, if an ILEC's wholesale rate for a DS0 UNE-L service is between \$11
14 and \$22 per line per month, then the purchasing CLEC's total monthly loop cost
15 to serve its retail customer with five UNE-L lines is between \$55 and \$110. The
16 simplified cost analysis calculates the total monthly loop cost to sell, install, and
17 maintain a DS1-based service at a customer's location and then divides that result
18 by the monthly UNE-L costs of serving that same customer. This result, rounded
19 to the next higher whole number, yields the number of UNE-L lines at which the
20 CLEC should be economically indifferent as to whether DS0 loops or a DS1 loop

⁸⁷ A DS1 loop can serve up to 24 voice grade equivalents.

⁸⁸ A CLEC that provides a customer with service using UNE-L will certainly incur some non-recurring expenses for activities such as creating an internal order once the customer has agreed to subscribe to the CLEC's service and submitting an order to the ILEC. However, those expenses would also occur if the CLEC served the customer using a DS1 based service. To simplify the analysis, CLEC costs to order either UNE-L or DS1 loops are excluded from the analysis.

1 is used to provide service. The simplified cost study only considered the costs of
2 providing service by means of a DS1 from the customer's location to the CLEC's
3 collocation arrangement at the ILEC's central office.

4 **Q. HOW DOES YOUR COST ANALYSIS ACCOUNT FOR THE**
5 **DIFFERENT UNE RATE ZONES IN THIS STATE?**

6 A. The costs for a DS1-capable loop and a DS0 UNE-L line can vary substantially by
7 rate zone. For the sake of simplicity and administrative efficiency, the cost
8 analysis develops a weighted average of the crossover points for the individual
9 zones based upon the percentage of loops that are found in each zone.

10 **Q. HAS THE FOUR-LINE LIMIT PRESENTED IN THE UNE REMAND**
11 **ORDER BEEN IN EFFECT IN THIS JURISDICTION?**

12 A. No. To the best of our knowledge, the limit has never been imposed in Verizon's
13 eastern region, encompassing the former Bell Atlantic and NYNEX states and the
14 District of Columbia. Apparently, Verizon has not been harmed by the lack of
15 "cut-off" limits, as evidenced by its inaction.

16 **Q. SHOULD THE COMMISSION MAKE AN AFFIRMATIVE FINDING**
17 **THAT THERE SHOULD BE NO FIXED CUT-OFF NUMBER OF UNE-P**
18 **LINES THAT MAY BE AVAILABLE TO A CLEC TO SERVE A**
19 **CUSTOMER IN A GIVEN LOCATION?**

20 A. Yes. As Verizon appears to agree, the absence of a fixed "cut-off" level for
21 obtaining UNE-P lines has allowed CLECs to determine, on a case-by-case basis,
22 where the true economic crossover point is in serving each multi-line customer.
23 The establishment of any fixed "cut-off" level creates the risk that multi-line
24 customers currently subscribing to a greater number of DS0 lines, and therefore
25 having the opportunity to choose from among numerous carriers offering DS0-
26 based service, will find themselves with no competitive alternative to ILEC-

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**IN THE MATTER OF THE INDIANA UTILITY)
REGULATORY COMMISSION'S)
INVESTIGATION OF MATTERS RELATED TO)
THE FEDERAL COMMUNICATIONS) CAUSE NO. 42500
COMMISSION'S REPORT AND ORDER ON.)
REMAND AND FURTHER NOTICE OF)
PROPOSED RULEMAKING IN CC DOCKET)
NOS. 01-338, 96-98, AND 98-147.)**

DIRECT TESTIMONY OF

JOSEPH GILLAN

ON BEHALF OF

AT&T COMMUNICATIONS OF INDIANA, GP

AND

TCG INDIANAPOLIS

APRIL 2, 2004

IURC Cause No. 42500
Testimony of AT&T Witness Joseph Gillan
Page 8 of 72

1 provide voice service with its own switch using a DS1 or above loop. We
2 determine that this includes all customers that are served by the competing carrier
3 using a DS1 or above loop and all customers meeting the DS0 cutoff.⁹ The cutoff
4 is defined as "the point where it makes economic sense for a multi-line customer
5 to be served via a DS1 loop."¹⁰
6

7 **Q. How should the DS0 cutoff point be established?**

8 A. A very simple approach would be to establish the cutover through a
9 straightforward calculation that determines when the cost of a UNE DS1
10 (including non-recurring activities and the installation of customer premises
11 equipment necessary to utilize DS1 level service) is less than continued use of
12 multiple UNE analog loops for voice service. This point would form the "upper
13 bound" of the analog mass-market, i.e., the point at which a mass market
14 customer should be considered an enterprise customer based on the number of
15 analog lines used to obtain voice service.

16 Generally, to estimate the line-count of mass-market lines at which a DS-1
17 is the more efficient choice, the following formula should be used:

$$\text{Crossover} = \frac{(\text{CPE} + \text{UNE DS-1})}{\text{UNE Loop}}$$

18

⁹ TRO ¶421, n.1296. emphasis added.

¹⁰ TRO ¶497.

IURC Cause No. 42500
Testimony of AT&T Witness Joseph Gillan
Page 9 of 72

1 Where "CPE" includes all the costs associated with the equipment and inside-wire
2 changes needed to make the customer's analog service compatible with a DS-1
3 loop, and where the values for "UNE DS-1" and "UNE Loop" include all
4 relevant costs of leasing these facilities from the incumbent (including non-
5 recurring charges to establish service). There are other factors not included in the
6 simple formula above that would more accurately capture real-world constraints
7 that would (as I explain below) increase the crossover. Moreover, a more realistic
8 calculation would include additional costs to use UNE-L (such as collocation and
9 backhaul) that are not incurred to use UNE-P. Although additional complication
10 could be added to the formula, at a minimum the crossover should comply with
11 this simplified approach.

12

13 **Q. Is AT&T sponsoring a specific cutoff values?**

14 **A. Yes.** Mr. Scott Finney is sponsoring a specific cutoff value based on Indiana
15 specific input values for the relevant UNE components. Mr. Finney's calculation
16 is based on a spreadsheet developed by Sprint (which is both a CLEC entrant in
17 some areas, and an incumbent local exchange carrier in others). Mr. Finney's
18 calculation is consistent with the analysis above and I recommend that the
19 Commission adopt his recommendation that the DS0 cutoff be set at 10 lines.

20

21 **Q. Are there other considerations that the Commission should keep in mind**
22 **when it adopts the "DS0 cutoff?"**